ACC.12
61st Annual Scientific Session & Expo
ACC-i2 with TCT innovation in intervention

E1694
JACC March 27, 2012
Volume 59, Issue 13

Prevention

SIGNIFICANT DIFFERENTIAL EFFECTS OF OMEGA-3 FATTY ACIDS AND FENOFIBRATE IN PATIENTS WITH HYPERTRIGLYCERIDEMIA

ACC Moderated Poster Contributions
McCormick Place South, Hall A
Sunday, March 25, 2012, 9:30 a.m.-10:30 a.m.

Session Title: Prevention: Clinical: Current Research in Lipidology
Abstract Category: 9. Prevention: Clinical
Presentation Number: 1190-538

Authors: *Kwang K. Koh, Michael Quon, Hanul Choi, Gachon University Gil Medical Center, Incheon, South Korea, NIH, Bethesda, MD, USA*

Background: Omega-3 fatty acids and fenofibrate are both used to treat patients with hypertriglyceridemia. However, a head-to-head comparison of the lipoprotein and metabolic effects of these two medicines has not been published.

Methods: This was a randomized, single-blind, placebo-controlled, parallel study. Age, sex, and body mass index were matched among groups. All patients were recommended to maintain a low fat diet. Fifty patients in each group were given placebo, omega-3 fatty acids 2 g (most commonly used dosage in Korean patients), or fenofibrate 160 mg, respectively daily for 2 months.

Results: Omega-3 fatty acids therapy decreased triglycerides by 21% and triglycerides/HDL cholesterol and improved flow-mediated dilation ($P<0.01$)), however, did not significantly change insulin, plasma adiponectin levels, and insulin sensitivity (determined by QUICKI) relative to baseline measurements. Fenofibrate therapy decreased total cholesterol, triglycerides by 29%, and triglycerides/HDL-cholesterol (all $P<0.01$) and improved flow-mediated dilation when compared with baseline. When compared with placebo and omega-3 fatty acids, fenofibrate therapy decreased non-HDL cholesterol ($P<0.001$) and triglycerides/HDL cholesterol ($P=0.016$) while increasing HDL cholesterol ($P<0.001$) and apolipoprotein AI ($P=0.001$). Of note, when compared with omega-3 fatty acids, fenofibrate therapy decreased fasting insulin ($P=0.023$) and increased plasma adiponectin ($P=0.002$) and insulin sensitivity ($P=0.015$).

Conclusions: Omega-3 fatty acids and fenofibrate therapy promoted similar changes in triglycerides and endothelium-dependent dilation. However, fenofibrate therapy had substantially better effects on lipoprotein and metabolic profiles in patients with hypertriglyceridemia.